

TAXONOMIC REVISION OF THE GENUS *XENASPIS* OSTEN SACKEN FROM CHINA (DIPTERA, PLATYSTOMATIDAE)

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Abstract The genus *Xenaspis* Osten Sacken (Diptera, Platystomatidae) from China is revised. Four Chinese species of the genus are presently recognized, of which *Xenaspis maculipennis* sp. nov. is described as new to science. A key to the species, diagnoses and illustrations for some species are provided. The type specimens of new species are deposited in Institute of Zoology, Chinese Academy of Sciences, Beijing.

Key words Diptera, Platystomatidae, *Xenaspis*, new species, China.

The genus *Xenaspis* belonging to the subfamily Platystomatinae (Diptera, Platystomatidae), was erected by Osten Sacken in 1881 for a single species, *X. polistes* Osten Sacken from Philippines. To date, 15 species of the genus have been reported so far (Walker, 1849; Osten Sacken, 1881; Hendel, 1914; Bezzi, 1916; Enderlein, 1912, 1924; Steyskal, 1977), they are known to occur in the Oriental Region.

Based on the examination of platystomatid specimens, a total of 4 Chinese species of the genus are presently recognized, of which *Xenaspis maculipennis* sp. nov. is described as new to science. Materials used here are deposited in the Institute of Zoology, Chinese Academy of Sciences, Beijing, China (IZCAS) and the Natural History Museum, London, UK (BMNH).

Morphological terminology generally follows McAlpine (1981). Length of body and wing is measured in millimeter. The four ratios used in the descriptions as follows: frons:eye ratio (width of frons / width of eye at ocellar triangle in dorsal view); gena:eye ratio (genal height / longest eye diameter in lateral view); clypeus:face ratio (vertical length of clypeus / vertical length of face in anterior view).

Xenaspis Osten Sacken, 1881

Xenaspis Osten Sacken, 1881: 134. Type species: *Xenaspis polistes* Osten Sacken, by monotypy.

Oxycephala Walker, 1849: 1162. Type species: *Oxycephala pictipennis* Walker, by monotypy. Preoccupied. Synonymized by Hendel, 1914: 42.

Polistomima Enderlein, 1912: 349. Type species: *Polistomima walkeri* Enderlein, by original designation. Synonymized by Hendel, 1914: 42.

Diagnosis. This genus is differentiated from other genera of Platystomatinae by the following combination of characters: 1) medium to large-sized, abdominal terga 1 and 2 obviously elongate,

petioliform; 2) face flat, antennal grooves deeply concave, generally with 2 black spots or stripes on sides; 3) antenna shorter than face; 1st flagellomere rounded at apex, about 2.5 times as long as pedicel; arista short plumose; 4) scutellum short, at least twice wider than long, slightly swollen dorsally; 5) head with only a pair of inner vertical and outer vertical bristles; thorax with a pair of postsutural supra-alar, postalar, intra-alar, 2 pairs of notopleurals and 1-3 pairs of scutellar bristles; 6) wing hyaline with brown to black markings, r-m oblique and situated behind middle of cell dm; 7) mid tibia with one apical spine ventrally; 8) male surstylus elongate and nearly pointed at apex, distiphallus oval with two slender terminal filaments, ejaculatory apodeme fan-shaped; female oviscapae compressed dorsoventrally, spermathecae round and well developed; aculeus elongate, setulose apically, rounded at apex.

Distribution. Oriental Region.

Key to Chinese species of *Xenaspis*

1. Scutum and abdominal terga predominantly brown to black 2
Scutum and abdominal terga predominantly yellow to yellowish brown 3
2. Apical brown spot of wing very large, almost occupied whole wing apex (Fig. 5); medium sized species, body length 12-14 mm
..... *X. maculipennis* sp. nov.
Apical brown spot of wing small, occupied nearly upper 2/5 of wing apex (Fig. 10); large sized species, body length 17-25 mm
..... *X. pictipennis* (Walker)
2. Anterior area of frons with a black spot; scutum with 3 longitudinal black vittae; wing with a small apical brown spot and cell sc yellowish brown *X. formosae* Hendel
Anterior area of frons without black spot; scutum lacking longitudinal black vittae *X. flavipes* Enderlein

Xenaspis flavipes Enderlein, 1924

Xenaspis flavipes Enderlein, 1924: 102. Steyskal, 1977: 155.

Diagnosis. This species is characterized by having the thorax and abdomen predominantly yellow to yellowish brown, legs almost entirely yellow. It appears to be similar to *X. formosae*, but differs from the latter by absence of black spot on the anterior area of frons and lacking longitudinal black vittae on scutum.

Distribution. China (Taiwan).

Xenaspis formosae **Hendel, 1914**

Xenaspis formosae Hendel, 1914: 40. Frey, 1964: 4; Steyskal, 1977: 155.

Diagnosis. This species is easily distinguished by having 2 round to oval black spots on sides of face; frons with one black spot on the anterior area and 2 black spots on posterior area; thorax and abdomen predominantly yellow to yellowish brown, with a long median black vitta and 2 short lateral black vittae on scutum; anepisternum, anepimeron and katapisternum each with a black marking; abdominal terga with a median longitudinal black vitta, terga 3 and 4 in male or terga 3-5 in female generally each with a basal black band, sometimes these black bands interrupted medially; wing hyaline in ground color with a small apical brown spot, and cell *sc* yellowish brown; legs almost entirely yellow. Length: body 14.5-15.0 mm; wing 12.5-13.0 mm.

Material examined. 1 ♂, 1 ♀, China, Taiwan, Kosempo, 25 Apr. - May 1908, det. by Kertész (BMNH). 1 ♂, China, Taiwan, Rimogan, 20 Apr. 1935 (IZCAS).

Distribution. China (Taiwan).

Xenaspis maculipennis **sp. nov.**

Male. Head height 1.10-1.15 × length, with one pair of inner vertical and one pair of outer vertical bristles. Frons yellowish brown, usually with 2 small brown to black spots on the posterior area; frons: eye ratio 1.44-1.50. Face yellow to yellowish brown, with 2 lateral black stripes on antennal grooves. Antenna shorter than face, yellowish brown, 1st flagellomere 2.5 times as long as pedicel; arista short plumose. Genæ: eye ratio 0.27-0.29. Occiput swollen laterally, entirely yellow. Clypeus brown to dark brown; clypeus: face ratio 0.36-0.40. Proboscis brown to dark brown; palpi elongate, yellow with brown setulae.

Thorax brown to blackish brown, with following pale yellow to yellow areas: postpronotal lobe, scutellum, anatergite, katatergite, a mark on anepisternum and sometimes a spot on upper portion of katapisternum. Scutum covered with yellow

pubescence. Halteres dark brown except for basal portion yellow. 1 postsutural supraalar, postalar, intraalar bristles, and 1-3 pairs of scutellar bristles. Wing hyaline with a large, dark brown to black apical spot. Legs yellow to yellowish brown, with coxae brown to black and tarsi brown, sometimes fore femur tinged with brown.

Abdomen elongate, covered with white pubescence; terga 1 and 2 rather narrow, petioliform, predominantly yellow to yellowish brown, rarely whole black; terga 3-5 entirely black, tergum 5 about equal in length to the 4th. Male surstylus elongate, nearly pointed at apex; distiphallus oval with two slender terminal filaments, ejaculatory apodeme fur-shaped.

Female. Similar to male in general characters, but abdominal tergum 5 slightly longer than the 4th. Oviscape black, about half as long as tergum 5 in dorsal view; aculeus elongate, rounded at apex and with 2 pairs of preapical setulae; spermathecae round and well developed. Length: body 12-14 mm; wing 10-12.5 mm.

Material examined. Holotype ♀, China, Yunnan, Xishuangbanna (22°N, 100.8°E), 1050-1080 m, 23 May 1958, ZHANG Yir-Ran (IZCAS). Paratypes: 1 ♂, 1 ♀, same locality with holotype, 9 June 1958, PU Fur-Ji; 1 ♀, same as above, 10 June 1958, CHEN Zhi-Zi; 1 ♀, same as above, 1200 m, 15 June 1958, CHEN Zhi-Zi; 1 ♂, same as above, 1000 m, 23 May 1958, PU Fur-Ji; 1 ♂, 1 ♀, same as above, 30 June 1958, WANG Shu-Yong; 1 ♀, same as above, 950 m, 26 June 1958, ZHANG Yir-Ran (IZCAS).

Etymology. The specific epithet comes from the Latin words *macula*, spot or mark, and *pennis*, wing, referring to a large brown spot at the apex of the wing.

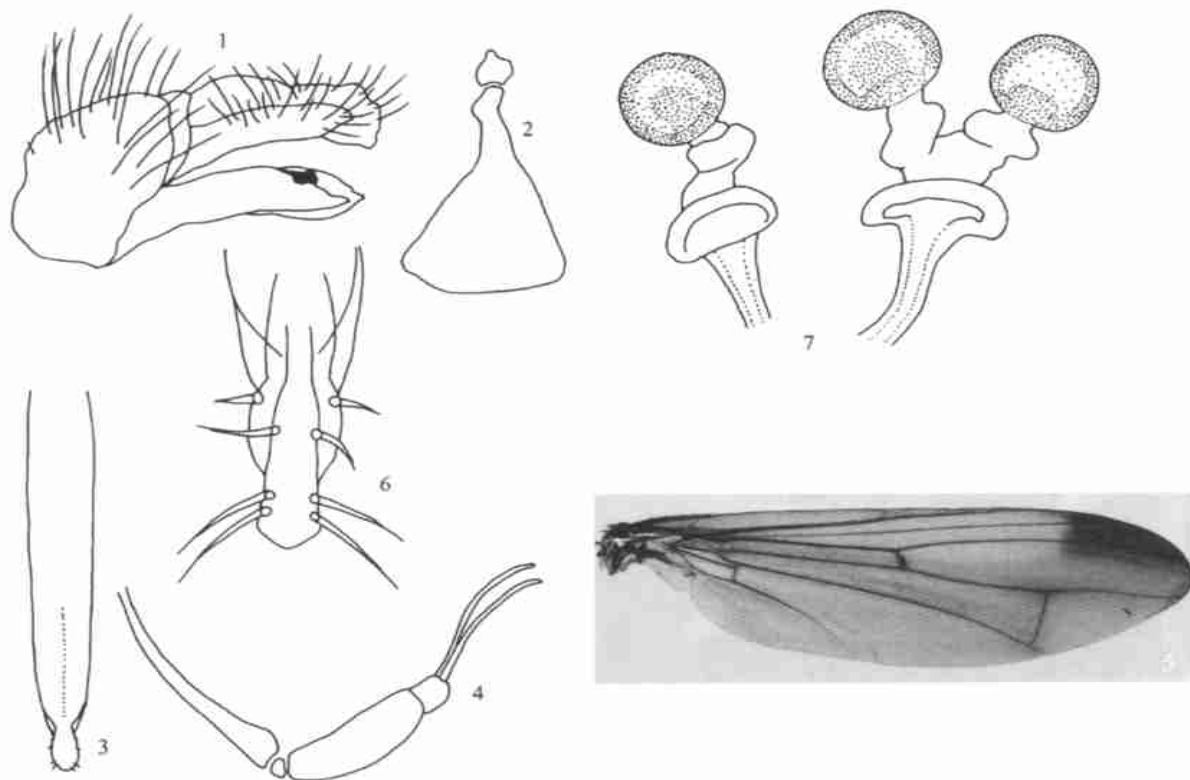
Distribution. China (Yunnan).

Remarks. This species is readily differentiated from all other species of the genus by the following combination of characters: wing hyaline in ground color, with a large brown spot occupied the whole apex; thorax predominantly brown to blackish brown, with postpronotal lobe, scutellum, a spot on anepisternum, anatergite and katatergite pale yellow to yellow; abdominal terga 1 and 2 generally yellow, terga 3-5 entirely black.

Xenaspis pictipennis (**Walker, 1849**) (Figs. 8-12)

Oxycephala pictipennis Walker, 1849: 1162. Steyskal, 1977: 155.

Xenaspis vespoidea de Meijere, 1904: 107. Synonymized by Hendel, 1914: 44.



Figs. 1-7. *Xenaspis maculipennis* sp. nov. 1. Epandrium, surstylus and cercus in profile. 2. Ejaculatory apodeme. 3. Aculeus. 4. Distiphallus. 5. Wing. 6. Apical portion of aculeus. 7. Spermathecae.

Polistomima gigantea Enderlein, 1912: 353. Synonymized by Hendel, 1914: 44.

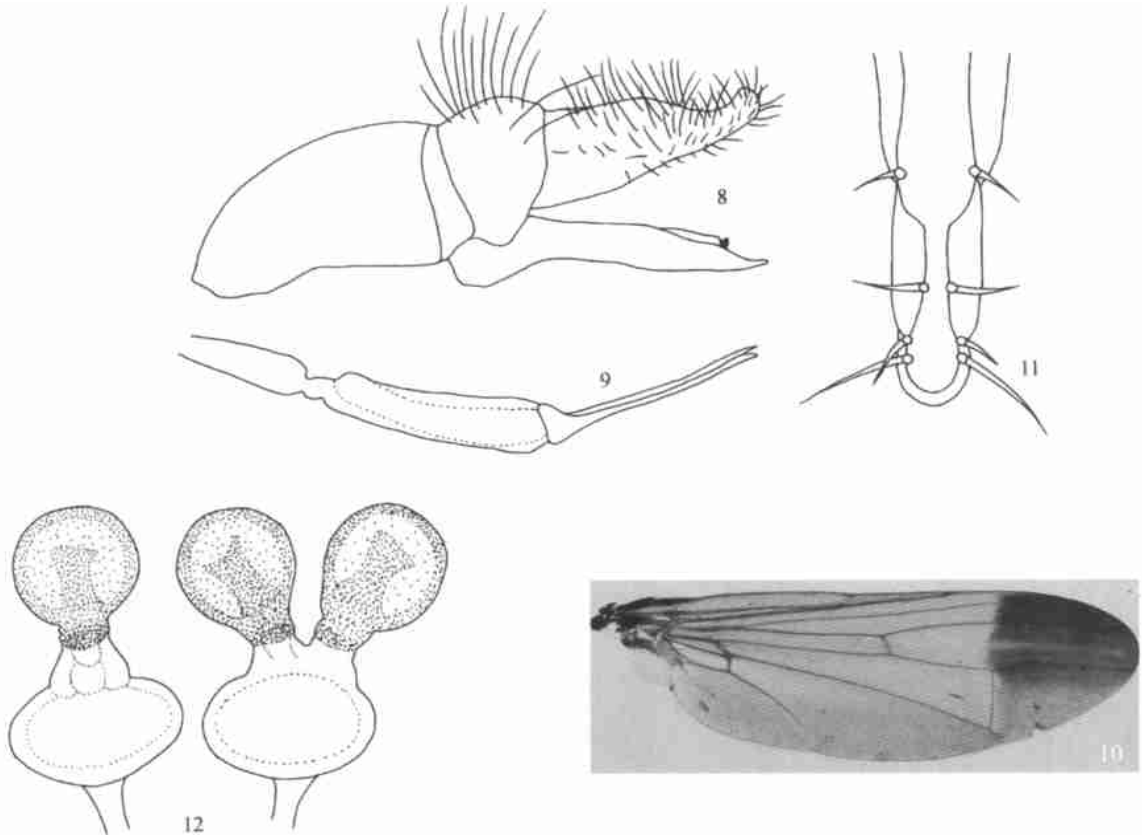
Diagnosis. A large-sized species which is easily distinguished by the following combination of characters: face with 2 narrow black stripes filling lower 2/3-3/4 of antennal grooves; thorax and abdomen predominantly brown to black; postpronotal lobe, scutellum, a spot on anepisternum, anatergite and katatergite yellow; legs brown to black, femora and tarsi mostly yellowish brown to dark brown; wing hyaline in ground color, with an apical brown spot. Male surstylus elongate and nearly pointed at apex, distiphallus oval with two slender terminal filaments; female oviscapae black, shorter than half length of tergum 5 in dorsal view; aculeus elongate, rounded at apex and with 2 pairs of preapical setulae; spermathecae round and well developed. Length: body 17-25 mm, wing 14-18 mm.

Material examined. 1 ♂, 1 ♀, India, Sikkim,

coll. Bingham, det. by Enderlein; 1 ♂, India, Bihar, 13-14 May 1914 (BMNH). 7 ♂♂, 22 ♀♀, China, Yunnan, Xishuangbanna, 850 m, 11 May-11 June 1957, WANG Shu Yong; 6 ♂♂, 2 ♀♀, same locality as above, 9 June 1957, ZHANG Yi Ran; 12 ♂♂, 9 ♀♀, same as above, 10-11 June 1957, ZANG Ling-Chao; 11 ♂♂, 5 ♀♀, same as above, 750 m, 1 June 1958, HONG Chur Pei; 7 ♂♂, 6 ♀♀, same as above, 750 m, 3 June 1958, MENG Xu Wu; 6 ♂♂, 6 ♀♀, same as above, 750 m, 3 Apr. -30 May 1958, ZHENG Le Yi; 5 ♂♂, 7 ♀♀, same as above, 750 m, 6 June 1958, WANG Shu Yong; 2 ♂♂, 2 ♀♀, same as above, 1 050-1 080 m, 19 May-6 June 1958 (IZCAS).

Distribution China (Yunnan), India (Sikkim, W. Bengal), Indonesia (Java).

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Figs 8-12. *Xenaspis pictipennis* (Walker). 8. Epandrium, surstylus and cercus in profile. 9. Surstylus. 10. Wing. 11. Apical portion of aculeus. 12. Spermathecae.

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中国大广口蝇属分类研究 (双翅目, 广口蝇科)

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摘要 以保存于英国自然历史博物馆和中国科学院动物研究所的标本为材料, 对中国大广口蝇属 *Xenaspis* Osten Sacken (双翅目: 广口蝇科) 进行了分类研究, 确认目前中国已知下列 4 种: 黄足大广口蝇 *X. flavipes* Enderlein、台湾

关键词 双翅目, 广口蝇科, 大广口蝇属, 新种, 中国.

中图分类号 Q969.44

大广口蝇 *X. formosae* Hendel、斑翅大广口蝇 *X. maculipennis* sp. nov., 硕大广口蝇 *X. pictipennis* Walker. 除详细记述其中的 1 新种外, 还提供中国已知种类的分种检索表及其有关特征图.